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A SURVEY OF TIME REQUIRED TO COMPLETE UNDERGRADUATE COURSES BY CORRESPONDENCE STUDENTS AND BY RESIDENCE STUDENTS

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ABSTRACT

A survey method of research was used to collect data from correspondence and residence students at the University of Illinois concerning their present courses. Results indicate that the time required to prepare lessons for a correspondence course is approximately equal to that required for residence students. The major exception to this finding is in the humanities area where preparation for correspondence study is somewhat greater. Ratings from correspondence students show the courses to be, on the average, interesting and rather difficult. Difficulty in a course seemed to be more a function of the amount of writing required by the lessons than by whether the course was interesting or not.

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INTRODUCTION

A survey method of research was used to collect data related to the following questions:

1. Can a sufficient quantity of data be collected for research purposes by sending a short questionnaire to correspondence students on a voluntary return basis?
2. Do time requirements to complete an undergraduate course differ significantly between correspondence students and residence students?
3. Are there any important relationships between measures of a) time to complete course requirements, b) ratings of interest in the course, and c) ratings of course difficulty?

The apparent simplicity of these questions reflects the lack of systematic research of variables related to correspondence instruction. The reference to correspondence students in this project means those students who were enrolled in the correspondence courses program at the University of Illinois and who interacted with their instructors

primarily with written communication. Residence students are those who were currently enrolled in programs of study at the Urbana-Champaign Campus of the University of Illinois

Data Collection Procedures from Correspondence Students

A three item questionnaire was sent to 500 students along with their most recently graded lesson. The students were instructed to answer the questions and to return it with their next lesson. The data required from the students were: 1) their name, course name and number, and lesson number, 2) the amount of time that it required to read the assignment and to prepare the written work (in hours and minutes), 3) ratings of course difficulty on a five point scale from much too easy to much too difficult and 4) ratings of interest in the course on a five point scale from very uninteresting to very interesting.

Approximately two weeks were required to send all of the questionnaries to the students and within a month after the first questionnaires had been mailed, approximately 250 had been filled in and returned. This method of data collection did not sample those students who failed to submit a lesson during the critical two week

period. It also yielded two or more questionnaires from the students who submitted more than one lesson during that time.

Data Collection from Residence Students

With the assistance of personnel from the Office of Instructional Resources (OIR) at the University of Illinois, data from The Advisor questionnaire were made available for this study. The Advisor is a course-instructor evaluation instrument originally designed by University of Illinois students but recently modified by personnel in OIR. Responses from Item 17, which reads:

> Considering all homework (i.e., papers, project, reading), how many hours per week did you spend studying?
>
> A. 0-3
>
> B. 4-6
>
> C. 7-9
>
> D. 10 or more

were used to estimate the mean study time for groups of students taking residence courses.

In addition, a questionnaire was designed for use with residence

students which was very similar to that used by the correspondence students. The major changes in the questionnaires are: 1) the students did not have to identify themselves (although most did), and 2) they were requested to estimate the amount of study time per week rather than per lesson.

The questionnaires were distributed by two teaching assistants in the course, Educational Psychology 211. A total of 78 students responded to the questionnaire.

Descriptions of Course Areas

The restrictions of correspondence study have seemingly made it necessary for various subject matter disciplines to develop courses of varying difficulty and/or number of lessons. For example, the three hour course offering, General Engineering 101 requires the completion of 45 lessons while History 353, also three hours, requires only 10 lessons. In addition, feedback from students tends to indicate that courses such as Accountancy 101, History 151 and Rhetoric 101 are much more difficult and time consuming than are other courses

such as Educational Psychology 211, Psychology 100 and Geography 103.

In an attempt to analyze the data by subject matter areas, the entire listing of approximately 110 courses were divided into seven categories (see Table 1).

Insert Table 1 about here

RESULTS

Table 2 shows the number of hours spent in reading the assignment(s), preparing the written work and the total preparation time. The tabled entries are percents along each row. For example, consider the students who were taking courses in the physical sciences. The data show that 40 percent of the students required less than two hours, 40 percent required from two to four hours and 20 percent required from eight to ten hours to read and study for their lesson. Similar comparisons can be made for time requirements to prepare the written work (write) and for total lesson preparation time (total).

Insert Table 2 about here

Data from questionnaire Items 2 and 3 were quantitatively coded by using the numbering systems shown on the sheets. For example, if a student indicated the course was easy by circling a "2" for Item 2, his response was given an index of "2." When using this coding system, the more difficult courses receive a high index and the easier courses receive a low index. A similar system was used for the interest ratings where a high index represents an interesting course and a low index represents an uninteresting course.

Figure 1 shows a comparison of 1) reading time, 2) time to prepare written work and 3) total lesson preparation time as a function of six subject matter areas. The data are group means and are presented to enhance across group comparisons.

Insert Figure 1 about here

Several interesting patterns are represented in the data:

1. the relatively large amount of total time required by the Humanities courses;

2. the tendency for areas 1, 3 and 5 to require about twice as much time to prepare written work as to read the lesson; and

3. the tendency for areas 2, 4 and 6 to require approximately equal time to prepare the written work and to read the lesson.

Figure 2 shows a comparison of interest and difficulty indices for the six subject matter areas. The data are amazingly stable when compared across the subject matter areas, with two possible exceptions being the physical science and foreign language areas. The interest ratings in these areas are lower than in the others; also, the physical sciences area appears to be more difficult.

Insert Figure 2 about here

Product moment correlation coefficients were computed between measures of 1) reading time (read), 2) time to prepare written work (write), 3) difficulty and 4) interest. The coefficients are given below:

1. $r_{\text{read x write}} = .18$

2. $r_{\text{difficulty x interest}} = .05$

3. $r_{\text{read x difficulty}} = .04$

4. $r_{\text{read x interest}} = .01$

5. $r_{\text{write x difficulty}} = .31$

6. $r_{\text{write x interest}} = .05$

Coefficient $r_{\text{write x difficulty}}$ is statistically different from zero at the 0.001 level. None of the other coefficients are statistically significant at the 0.05 level or greater.

Table 3 shows a comparison of measures from correspondence and residence students in a senior level educational psychology course.

Insert Table 3 about here

Table 4 shows the mean number of study hours per week reported by resident students in the Fall of 1970. The mean was computed by weighting the responses to the A alternative (0-3 hours) with a "2", the B alternative (4-6 hours) with a "5", the C alternative (7-9 hours)

with an "8" and the D alternative (10 or more hours) with an "11." The reported study time per week ranges from 3.4 hours in the social sciences to 5.5 hours in foreign languages.

Insert Table 4 about here

CONCLUSION AND DISCUSSION

1. The data show that approximately one half of the questionnaires were returned by the students. The return rate is higher than that encountered on most surveys without follow-up procedures, however, it still leaves room for improvement.

A recommendation concerning this matter is to inform all correspondence students when they enroll that they may be required to complete several questionnaires during their enrollment period. The students should also be assured that their names and addresses will not be made available to the public and that all authorized surveys will be clearly identified with University of Illinois markings.

2. Results indicate that the average time to study for and

prepare a correspondence lesson is approximately seven hours. Since most correspondence courses have approximately six lessons per credit hour, completion of a three hour course requires an average of 126 hours of student preparation time. This estimate does not include the time required to study for and take the final exam.

A comparison of times as a function of subject matter areas shows some systematic differences. For example, total lesson preparation time for courses in the humanities is approximately twice that for courses in math and computer science. It is also apparent that courses in areas which require extended verbal responses from students, such as the social sciences, humanities and foreign languages, have approximately equal time requirements for reading preparation and for written preparation. The other three areas (physical science, math and computer science, and business related courses) require a proportionally greater amount of time to prepare the written assignments (problem sets in most cases) than reading and/or studying the textbook(s) and syllabi.

3. Results from the survey of residence students show that University of Illinois students spend an average of 4.3 hours per week in preparation for each course. The only courses included in this survey are those approximately 100 offerings which are also offered by correspondence study. Approximately 90 percent of the courses are three hour courses or greater thus yielding an hours out of class to hours in class ratio of 1.4 or less.

Concerning the time required to complete the course, Educational Psychology 211, the data show that resident students spend more time preparing for the course than do correspondence students. Table 2 shows that the resident students spend 2.92 hours per week for lesson preparation and three hours per week in class, giving a total time of 5.92 hours per week or approximately 89 hours per semester (not counting preparation time for the final exam). The correspondence students spend 4.07 hours of preparation per lesson, or approximately 77 hours per semester (not counting preparation time for the final exam).

As shown on page 8, students tend to associate course difficulty with the length of time to prepare the written work ($r = .31$), and not necessarily with the time to do the reading ($r = .04$). Table 3 shows that students taking Educational Psychology 211 reacted in the opposite direction by more closely associating the course difficulty with reading time than with writing time. These data suggest that each course may have unique characteristics which are functions of the behaviors required from the students. For example, if the course requires much more reading time than writing time, then difficulty of the course is more closely associated with the time it takes to do the reading.

It is interesting to note that measures of course difficulty and interest show very weak relationships in the data ($r = .05$, $.02$ and $-.02$). The apparent independence of these measures suggests their utility as indices of student attitudes toward courses in that they are measuring different dimensions.

TABLE 1

CATEGORIZATION OF COURSES IN SUBJECT MATTER AREAS

Subject Matter Category	Number of Courses	Courses Included in Category
1. Physical Sciences	12	General Engineering, Geography, Physics, Theoretical and Applied Mechanics
2. Social Sciences	17	Educational Psychology, Elementary Education, Health Education, Political Science, Psychology, Sociology
3. Quantitative Sciences	9	Mathematics, Computer Science
4. Humanities	18	English, Rhetoric, History
5. Business and Economics	15	Accountancy, Advertising, Business Administration, Economics, Finance
6. Foreign Languages	27	French, German, Greek, Italian, Latin, Russian, Spanish
7. Non-Credit Courses	3	Architecture, Business and Technical Writing, Constitution and Government

TABLE 2

TIME SPENT ON A CORRESPONDENCE LESSON AS A FUNCTION OF SUBJECT MATTER AREA

Subject Matter Area		Number of Hours Spent						
		Less than 2	2 to 4	4 to 6	6 to 8	8 to 10	10 to 20	20 or more
1. Physical Sciences	Read	40*	40	0	0	20	0	0
	Write	20	40	20	0	0	20	0
	Total	20	20	0	40	0	0	20
2. Social Sciences	Read	12	54	22	8	1	3	0
	Write	15	45	19	10	5	5	0
	Total	2	12	29	22	16	16	2
3. Mathematics and Computer Sciences	Read	74	17	9	0	0	0	0
	Write	39	22	26	8	4	0	0
	Total	17	26	26	17	13	0	0
4. Humanities	Read	17	42	17	6	6	11	2
	Write	19	19	25	19	8	9	2
	Total	2	15	11	17	21	28	6
5. Business, Economics, Accountancy	Read	63	30	7	0	0	0	0
	Write	7	44	26	4	7	8	0
	Total	4	11	42	7	11	15	0
6. Foreign Languages	Read	33	44	7	4	0	7	4
	Write	15	43	15	19	0	7	0
	Total	0	22	19	22	15	15	7
7. Non-Credit Courses	Read	0	100	0	0	0	0	0
	Write	50	50	0	0	0	0	0
	Total	0	100	0	0	0	0	0
Totals	Read	29	42	16	5	2	5	1
	Write	17	37	21	12	6	7	1
	Total	4	16	25	19	15	18	4

*All entries are percents.

TABLE 3

COMPARISON OF QUESTIONNAIRE STATISTICS FOR RESIDENCE AND CORRESPONDENCE STUDENTS IN EDUCATIONAL PSYCHOLOGY 211

	Residence Students (per week)	Correspondence Students (per lesson)
$r_{Read \times Write}$	0.17	0.41
$r_{Difficulty \times Interest}$	0.02	-0.02
$r_{Read \times Difficulty}$	0.33*	0.57*
$r_{Read \times Interest}$	0.01	-0.01
$r_{Write \times Difficulty}$	0.20	0.01
$r_{Write \times Interest}$	-0.06	-0.01
Mean Difficulty Index	2.79	3.05
Standard Deviation of Difficulty Index	0.57	0.49
Mean Interest Index	3.60	4.14
Standard Deviation of Interest Index	0.96	0.71
Mean Study Time	2.18 hrs.	2.20 hrs.
Mean Time for Writing Work	0.74 hrs.	1.87 hrs.
Class Time	3.00 hrs.	0 hrs.
Number in Sample	78 students	22 students

*Indicates a correlation coefficient significantly different from zero at the .01 level of significance.

TABLE 4

OUTSIDE-OF-CLASS STUDY TIME REPORTED BY RESIDENCE STUDENTS - FALL 1970

Subject Matter Areas	Number of Students	Mean Number of Hours per Week
1. Physical Sciences	99	3.7
2. Social Sciences	474	3.4
3. Mathematics and Computer Science	208	4.2
4. Humanities	382	4.7
5. Business, Economics and Accountancy	436	4.5
6. Foreign Languages	269	5.5

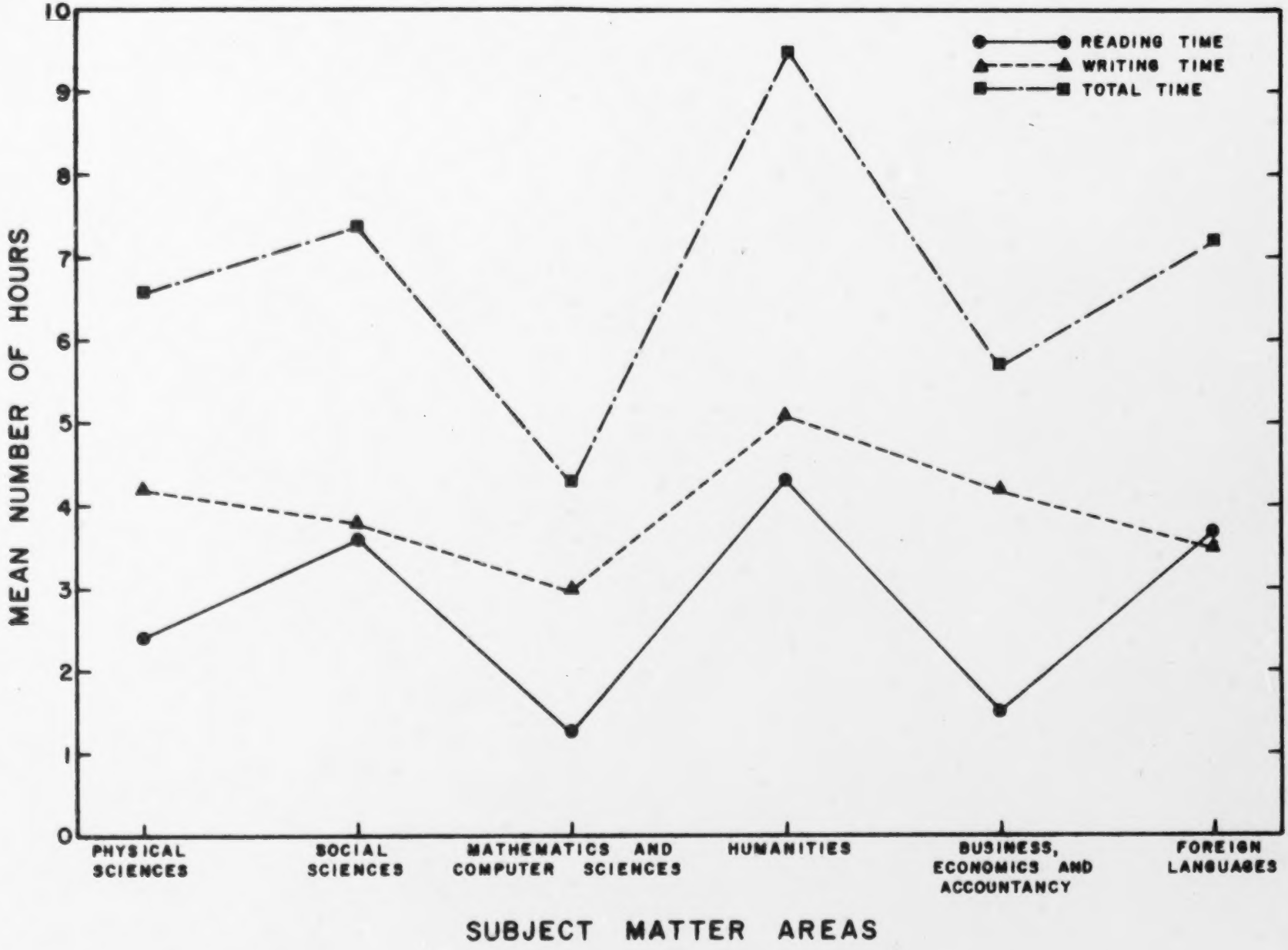

FIGURE I. COMPARISON OF LESSON PREPARATION TIMES AS A FUNCTION OF SUBJECT MATTER AREAS.

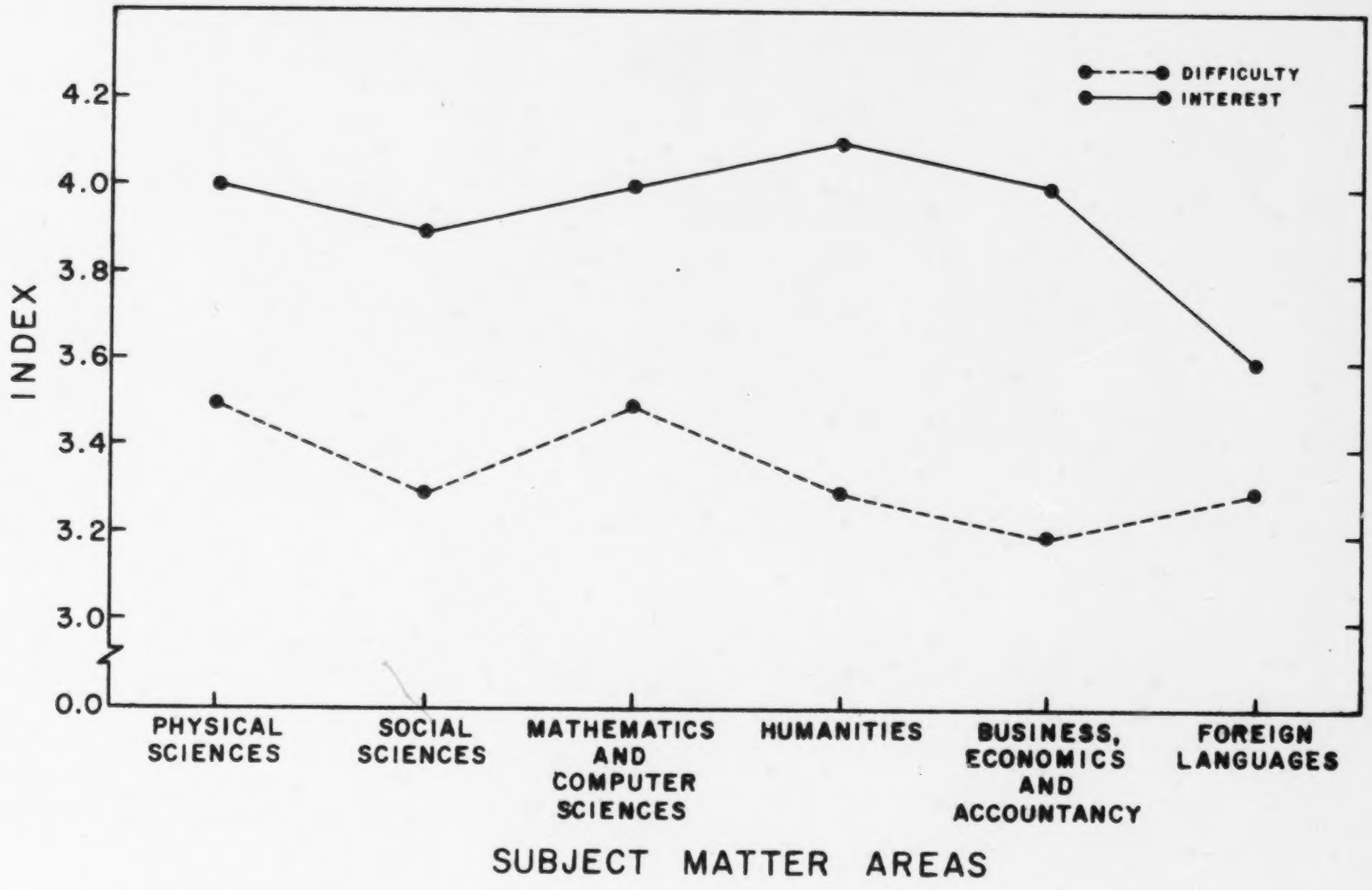

Figure 2. Comparison of course difficulty and course interest as a function of subject matter areas.

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